

Participation-Based Services:

Promoting Children's Participation in Natural Settings

Introduction to Participation-Based Services

The activities in which we participate are linked to a number of circumstances including time, preferences and interests, economic resources, where we live, and with whom we associate.

When children are young, the activities and routines in which they participate are influenced by family decisions as well as by opportunities for participation (Bruder & Dunst, 2000). Families report that finding community opportunities for their young children with disabilities can be difficult (Dunst, Bruder, Trivette, Raab, & McLean, 2001). Furthermore, ensuring their children's success in these settings requires more planning, coordination, and time than when children do not have disabilities. Families often use deliberate strategies to foster participation and adapt environments in order to successfully include their

children in a variety of community settings (Beckman, Barnwell, Horn, Hanson, Gutierrez, & Lieber, 1998).

The reauthorization of IDEA (1997), and specifically Part C of the Act (i.e., the infant/toddler program), emphasized the requirement that early intervention services be provided within the natural environments of the child and family. Although the law describes natural environments as locations where typical children spend time, the term has been frequently interpreted as meaning primarily a child and family's home. Although some early intervention providers serve children in child care or community settings, a majority of infants and toddlers receive early intervention at home (U.S. Department of Education, 2002). In addition, too often the natural environment requirement has been considered only an issue of the *location* in which the services are provided. That is, when the setting is the focus the professionals go to an environment such as a child's home or child care center and provide the same type of intervention services that would be provided in a specialized location such as an early intervention center, special school, hospital, or clinical setting. Professionals are likely to provide child-focused interventions by creating specially designed activities that address



targeted developmental goals and then doing those activities within a child's home (McBride & Peterson, 1997). The natural environment requirement does not just relate to where services are provided but focuses on promoting a child's active participation in the activities and routines that occur in a range of natural settings. When professionals address a child's participation in various natural settings, their focus broadens to include a participation-based approach to services. In other words, professionals work to promote a child's participation in the same activities and routines that similarly-aged children without disabilities are doing. Professionals accomplish participation-based services by adapting materials and the activity so that children can participate and by embedding individualized learning targets within activities and routines. In order to provide participation-based services, early intervention teams must support families of the children they serve in identifying, planning, and implementing strategies for successful participation in both home and community settings.

This article presents a series of steps and strategies to be used by an early intervention team providing services in a child's natural settings and to provide these services with a focus on active participation in a range of individually appropriate settings. In order to maximize a child's participation in the activities and routines of various settings, the team collaborates with the family to establish a

participation-based philosophy and implements this philosophy by completing three steps: (1) a "natural environments framework" to find out about family routines and activities, decide which routines and activities to address, and plan interventions to promote participation; (2) an "adaptation hierarchy" to guide decisions and generate ways of promoting participation and learning; and (3) a generic plan of strategies to address children's functional needs. Each of these steps is described in the remainder of this article and illustrated through the following vignette of Tunisha and her family.

Tunisha's family lives in a high-rise apartment in an older inner-city neighborhood. Twenty-month old Tunisha and her three- and four-year old brothers are cared for by their great grandmother, Mama Eva, during the day while their mother attends a work training program. Mama Eva has cared for many children over the years but she finds it more difficult raising kids today because of changes in her neighborhood. The condition of the apartment buildings, sidewalks, and play areas have deteriorated, and she worries that the children may hurt themselves as they encounter broken glass, cracked sidewalks, broken or missing handrails, and other hazardous trash. Furthermore, the inhabitants of the neighboring

The natural environment requirement does not just relate to where services are provided but focuses on promoting a child's active participation in the activities and routines that occur in a range of natural settings. When professionals address a child's participation in various natural settings, their focus broadens to include a participation-based approach to services.

apartments are constantly changing, people unknown to her come and go from the neighborhood on a regular basis, and there just seems to be so many more people and cars. Because of her concerns about the safety of the neighborhood and her own ability to monitor the children when they are outside the apartment, Mama Eva spends most of her time with the three children at home in their two-bedroom apartment.

Mama Eva is concerned that the children mostly spend time with each other and have little opportunity to play with other children their age. She knows that the children need to be out of the house and doing things, but in addition to her general concerns about the safety of the neighborhood, Tunisha's needs present challenges. Tunisha was born prematurely and has medical

issues as a result. At 12 months, she was diagnosed with cerebral palsy and began receiving early intervention services in her home. Getting all three children ready to go someplace is difficult. Even taking a walk to the store is difficult because Tunisha needs oxygen and has to be taken everywhere in a stroller since she is unable to walk. Sometimes she is fussy and cries so that they have to return home. Tunisha's family is involved in church activities and there is a library and a community center within walking distance of their apartment, but Mama Eva is just not sure how to make use of these opportunities.

Establishing a Philosophy of Participation-Based Services

Services can be provided in a particular setting without being influenced by the characteristics of the setting. For example, early intervention professionals may visit a child at home or in a child care program and remove the child from the setting activities and routines to provide direct intervention with a focus on targeted outcomes on a child's individualized family service plan (IFSP) (McWilliam, 1992; Pretti-Frontczak & Bricker, 2004). When participation is emphasized, professionals collaborate with parents, caregivers, and other individuals to design accommoda-

tions and adaptations to promote a child's participation in the activities or routines of the natural setting. Professionals use their expertise to help families include their children in the activities and routines that families identify as important to them (Cripe & Venn, 1997). Professionals can enable children to participate in mealtime routines at home, art activities in a child care setting, or an infant swim program at a community recreation program, for example.

A goal of participation is to enable a child to be included in an activity or routine as quickly and easily as possible; therefore, professionals rely on the use of accommodation and adaptation strategies to ensure success. Targeted learning is emphasized when professionals embed objectives, and specially designed teaching or therapy strategies, from a child's IFSP into the activities and routines of natural settings. When a child has an outcome, for example, of holding onto a spoon and is given a special spoon that the child is able to hold, an adaptation intervention is being used. Providing the child an adapted spoon allows the child to participate in family mealtimes or snack and lunch at the child care center. When a child has an outcome of learning to self-feed independently and the early intervention teacher or therapist teaches the child's caregivers how to use hand-over-hand feeding to teach self-feeding during mealtimes, opportunities for learning a targeted skill are created. In other words, specific opportunities for teaching and

When participation is emphasized, professionals collaborate with parents, caregivers, and other individuals to design accommodations and adaptations to promote a child's participation in the activities or routines of the natural setting.

learning a particular skill are created within the context of activities and routines that occur in particular settings. Likewise, Tunisha's team initially provided services through a traditional model of home visiting. Then, through the process described following, the team altered their approach to adopt a philosophy of participation-based services.

When Tunisha's physical therapist (PT), Katie, made her first home visit, she carried with her a bolster roll, a bag of toys, and a small mat. The building's elevator was broken, and Katie had to walk up to the eighth floor carrying these items. Mama Eva greeted Katie warmly and made space in the small living room for Katie to spread out the mat and put down the bolster. There were also two other children whom Mama Eva was watching there, so the four children all gathered around while Katie sat Tunisha on the bolster and began to work on balance and teaching her how to stand up from a sitting position. Katie tried to encourage Tunisha to play with some of the toys, but the other children kept grabbing them. Katie

recruited Tunisha's brother Damon to help her by holding the toys in front of Tunisha up high so that Tunisha would want to stand up and get the toys. Other professionals followed Katie that week. On Friday, Judith, the early intervention teacher, came bringing a snack for Tunisha so that she could work with her on finger feeding. Each of the professionals provided home-based services—services where they worked on Tunisha's IFSP outcomes while in her home.

After they had been providing home-based services for about a month, the early intervention providers met together informally to talk about Tunisha's program. They talked about the time required to travel to Tunisha's home, involvement of the other children in their activities with Tunisha, difficulties in transporting materials to use during their sessions, and ways to involve Mama Eva in intervention activities. Mama Eva was supportive but she did not involve herself in what the professionals were doing with Tunisha. Even though the team members felt that they had explained to Mama Eva the importance of her involvement in their activities, sometimes she even left the room, leaving whoever was there alone with Tunisha and the other children. None of the providers felt satisfied with what was happening. They realized that follow through was difficult when they were using special foods, materials, toys, and equipment with Tunisha and when Mama Eva was not always present to see what

they were doing. All of them wondered how services could be provided in ways that would increase Tunisha's participation in the activities and routines of her family.

Implementing Participation-Based Services

Young children with disabilities spend less time in community activities than their similarly-aged peers (Erhmann, Aeschleman, & Svanum, 1995). Participation in inner-city communities, like the neighborhood where Tunisha lives, may be influenced by family concerns about safety or may be limited by the economic resources of the neighborhood, a family's resources, or other factors such as ease of accessibility. In other cases, participation may be limited by the time families have available or by families' abilities to create and use strategies that will enable their children with disabilities to use available resources (Beckman et al., 1998).

Natural Environments Framework

The early intervention team working with Tunisha decides to have a meeting to involve Mama Eva in decisions about better ways to provide services. They meet at the apartment in the evening when Tunisha's mother, Joyel, is home from her work training program. The discussion is led by Katie, the PT, and includes the service coordinator as well as Judith, the early

intervention teacher. The team uses a "natural environments framework" technique to identify the family's current and desired routines and activities, prioritize those routines and activities requiring support to enhance participation, and generate strategies for promoting participation. The framework focuses the discussion on finding out about the family's community, the places where they spend or would like to spend time, and the activities and routines of those settings. Teams can use a variety of approaches, ranging from informal conversations to more formal strategies such as routines-based interviews ((McWilliam, 1992) or community maps (Campbell, Rayfield, & Charles, 2003) to elicit such information about families' communities.

Family routines and activities provide a framework for three

The team uses a "natural environments framework" technique to identify the family's current and desired routines and activities, prioritize those routines and activities requiring support to enhance participation, and generate strategies for promoting participation.

types of interventions: (1) accommodation and adaptation interventions to promote participation in activities and routines; (2) specialized teaching and therapy interventions to address targeted skills for developmental competence and learning; and (3) specialized strategies to address specific issues and concerns related to physical or sensory impairments that may be part of the disability of the child. Discussions with families, caregivers, or community personnel, at formal IFSP meetings or through ongoing conversations, help teams identify: (1) situations in which their expertise can be directed toward improving the activity or routine or promoting children's participation, and (2) family-selected activities or routines that can become a context for specific interventions needed to address targeted developmental skills.

Tunisha's team uses a "natural environments framework" to learn about family routines and activities and begin to make decisions about using participation interventions to improve routines and activities. The team begins with a discussion of the places where Tunisha and her family spend time outside of the home, including community settings the family is not currently using but would like to access. The team learns, for example, that both Joyel and Mama Eva think that the older boys should be in some type of school program but Shakeem is not yet old enough for Head Start and Damon is on the waiting list. Although Joyel is eligible to receive subsidized child care for all three children, no center in

her neighborhood has subsidized slots available. All three children are on waiting lists for subsidized care.

Mama Eva had taken the children to story hour at the local library branch on several occasions, but stopped attending when Tunisha cried and fussed so much that the librarian asked Mama Eva to take her outside. On Sundays, the whole family goes to church. Joyel keeps Tunisha with her in case she begins to fuss, and the boys spend time in the church nursery school. Mama Eva also attends church on Wednesdays when Joyel can stay home with the children. The basic household chores are accomplished by both the women, who take turns watching the children or going to the laundromat, stores, post office, or other places in their neighborhood. Usually they take one of the children with them when doing errands, but do not attempt to take all three at once. Most of these activities are accomplished in the neighborhood so that the women can walk rather than having to take public transportation.

Joyel has been in her work training program for eight months, leaving home at 7:30 each morning and often not returning until after 6:00 PM. Mama Eva gets the children up and dressed, watches them during the day, and feeds them dinner. Joyel and Mama Eva often eat "on the run" or after the children are in bed. The team learns that the local YMCA offers "Mother's Day Out," "Mommy and Me" classes, and swimming and gymnastics programs for

toddlers and preschoolers, but Mama Eva believes that these programs would not accept Tunisha because of her special needs. Mama Eva does attempt some neighborhood activities such as the apartment complex play yard. She plans outings around factors such as Tunisha's many medical appointments. The family values opportunities for all the children to get out of the house and play with other children, but are not sure how to increase the frequency of these experiences.

As illustrated in Table 1, together with Mama Eva and Joyel, the team summarizes the locations where the family spends time (or would like to spend time) and divides these activities and routines into those going well and those not going well.

Promoting Participation in Activities and Routines

Joyel and Mama Eva select the church nursery school, the library, and playing at home as activities in which they would like to have Tunisha's participation promoted. The team decides to focus first on the library since the story hour is an activity in which both Tunisha and her brothers can participate. The early intervention teacher, Judith, schedules her next visits so that she can accompany Tunisha to the library's story hour. She calls the library first and speaks to the children's librarian so that the librarian will know that Judith is there to figure out ways to help Tunisha participate. Judith meets Mama Eva at the library the

Table 1

Summary of Settings, Activities, and Routines

Setting	Activities/Routines Not Going Well	Activities/Routines Going Well
Home	Being dressed/undressed on LR sofa Playing by self or with brothers with toys or games Potty training and being changed	Being fed in kitchen, sitting in high chair or being held by Mama Eva or Joyel Watching TV lying on the floor or sofa Listening to music in crib in bedroom or in LR on sofa Being read to in crib or in LR Being bathed Singing Playing peek-a-boo and other baby games while sitting on adult's lap
Neighbors' Homes		Being played with and talked to by other children Watching TV
Play Yard	Playing outside in play yard	Being pushed around in stroller by other children
Neighborhood Stores	Running errands with Joyel or Mama Eva	Being talked to by other people
Church	Can't participate in Sunday nursery	Staying with Joyel during the church service
Library	Can't participate in story hour activities	Listening to stories (if she does not fuss before the stories are read) Puppets and stick props
Play Group at the YMCA	Can't participate in the children's activities Teachers don't want Tunisha in the group	Watching what is going on
Bus	Getting on/off bus with kids is difficult to manage without help	Watching out the window and other passengers

following week. Tunisha sits in her stroller, half falling out because the stroller is too small, but smiling and laughing with her brothers, Damon and Shakeem. Clearly, the stroller needs to be replaced. All the rest of the children attending story hour sit on the floor, but Tunisha can not do this without support. Judith sits on the floor and supports Tunisha between her legs, noting that the first thing to do is to figure out a way that Tunisha can sit by herself on the floor.

The librarian begins the story hour with a song. Tunisha sings along even though she can't say the words, but when the time comes for the children to use small rhythm instruments, there is no instrument that Tunisha is able to grasp. Judith makes a note to bring an instrument that can be fastened to Tunisha's wrist. She also thinks of a glove with Velcro® on the palm that Tunisha could wear. If Velcro® was placed on some of the instruments, then Tunisha could hold them. Next, the librarian brings out hand puppets and these work great for Tunisha since they slip onto her hand. The librarian reads a story in which each of the children makes his or her puppet move at the right time in the story. Tunisha can't get her arm all the way up in the air, but she waves the puppet around at the right time. The story hour ends with the librarian asking the children to talk about the story and to make pictures about the story. Tunisha is unable to draw a picture, since she can't hold the crayons and markers. The librarian

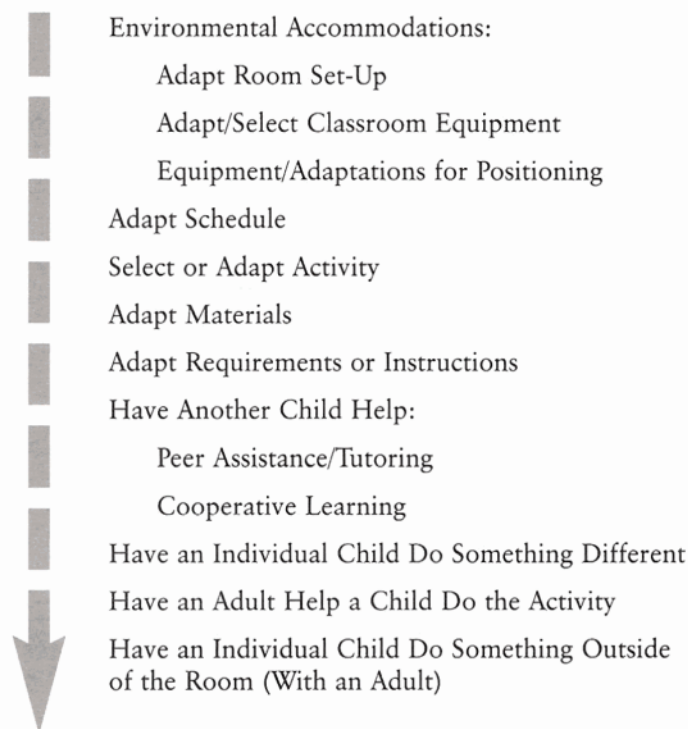
then asks each child to say something about the picture and she writes the children's words on the bottom of their papers. Everyone sings a good-bye song and the parents gather their children to leave the library.

Judith uses an "adaptation hierarchy" (shown in Figure 1) to identify the least intrusive accommodations and adaptations that could be used so that Tunisha can successfully participate as

independently as possible in the library story hour. She first identifies equipment and adaptations for positioning (e.g., stroller adjustments; a floor sitter chair; table-top easel) and decides to talk with the PT to figure out how these could be obtained or made. She then works from the top of the list to the bottom to think of ideas that could be used in the story hour. Selecting or adapting activities (e.g., always employing literacy

Figure 1

Adaptation Hierarchy: Facilitating Children's Participation and Learning



(The adaptation hierarchy organizes accommodation and adaptation interventions from the least to most intrusive and provides a systematic way of identifying interventions that can facilitate a child's participation in activities and routines.)

props such as puppets that Tunisha can use; making a picture board that Tunisha can use to communicate about each story) and adapting materials (e.g., Velcro® glove for holding items; finger paint) are two categories in which adaptations would allow Tunisha to participate without adult assistance. Judith also thinks of ways that Tunisha can be paired with another child (e.g., peer assistance) when adaptations will not work successfully but working together with another child would allow participation. Using the hierarchy, Judith is able to generate ways in which Tunisha could participate without having an adult right beside her for assistance. Arranging for peer assistance works well for this situation, in which the librarian often has as many as 15-20 children in the story hour group.

Judith meets with Mama Eva and the librarian and uses the hierarchy to talk about ways to help Tunisha participate. She suggests that a simple easel be made from cardboard and be placed on a table so that Tunisha, using the Velcro® glove, would have the support to allow her to draw along with the other children. She suggests making simple picture boards so that Tunisha could communicate about the story by pointing to pictures. She also suggests that Tunisha be paired, for some projects, with one of the older children (such as one of her brothers). As they talk, Mama Eva notes that if the librarian was able to tell her the story titles in

advance and she could borrow a copy of the book then she would be able to make appropriate picture boards and bring them with her to the story hour. (Mama Eva likes the picture board idea very much, and says that she will make them for other activities as well since it is often difficult to figure out what Tunisha wants.) Realizing that the activities in the story hour will change from week to week, Judith arranges to help plan the sessions by phone and to talk with Mama Eva at each visit to make sure that the ideas are working so that Tunisha is successful. Table 2 (see following pages) provides a sample of a simple to use generic information sheet (Campbell, in press; Rainforth & York-Barr, 1997) about basic functions such as positioning and communication. The team creates this information sheet so that the librarian has a general reference sheet of ideas no matter what the specific content is of a particular story hour.

Participation in library story hour helps address a concern that Joyel and Mama Eva have had about the children receiving opportunities to participate in activities with other children. Damon's, Shakeem's, and Tunisha's participation in story hour provides them with opportunities to learn social competence skills such as participating in a group, waiting for and taking turns, and sharing. Each may acquire an appreciation of literature and learn literacy skills as well as meet other children in their neighborhood with whom

they may develop friendships. Tunisha loves being read to, so she is participating in an activity that she really enjoys. By using a natural environments framework to identify an activity, the adaptation hierarchy as a guide for ideas to promote participation, and a generic information sheet, the team successfully improves Tunisha's participation in story hour and increases her opportunities to learn the types of skills that other children her age are learning.

Conclusion

Increasing participation in natural settings provides greater opportunities for children with disabilities to learn and develop. By capitalizing on natural learning opportunities, children have more opportunities to learn than just those available through early intervention services (Campbell, in press; Dunst, Bruder, Trivette, Hamby, Raab, & McLean, 2001). Children learn many skills that are not targeted on their IFSPs. One way they learn these skills is from exposure to multiple opportunities for learning (Dunst, Bruder, Trivette, Hamby, Raab, & McLean, 2001; Sandall & Ostrosky, 2000). Participation-based services specifically address children's participation in activities and routines that occur in multiple settings (or natural environments) and, by promoting participation, increase opportunities for children to learn.

Table 2

Plan of Strategies to Promote Tunisha's Participation in Library Story Hour

Ways to Position Tunisha	
When the other children ...	Tunisha can ...
Sit on the floor	Sit in her floor sitter chair Sit with you between your legs Be propped up in a bean bag chair Lie on her stomach
Sit at a table	Sit in a chair pushed up to the table and with a strap at her hips Sit in her stroller pushed up to the table
Are standing	Sit in her stroller Stand in front of you with you holding her at her hips (takes two hands) Stand in front of a table with you behind her so that your leg is between her legs (to keep them apart)
Moving Tunisha	
When the other children are moving from one place to another ...	Tunisha can ...
In the children's section of the library	Be carried or be pushed in her stroller
In the library (when entering or leaving)	Be carried, pushed in her stroller, or helped to walk by holding both of her hands and supporting her back against your legs (make sure that her legs don't get too stiff or cross over each other)
Helping Tunisha Manipulate Objects or Materials	
When the activity requires objects ...	Tunisha can ...
Storybook stick props; rhythm band instruments; other objects	Hold objects that are large when placed in her hand (e.g., instead of using a stick on the storybook props, staple Tunisha's prop to a paper towel cardboard tube) Hold objects that can be placed on her hand or arm so that she doesn't have to grasp (e.g., bells fastened to her wrist, puppets) Hold objects using her Velcro® glove
Markers, crayons, paint brushes	Hold the object with her Velcro® glove Use fat crayons (the ones with the knobs at the top) Finger paint instead Draw with an adult or another child helping her hold the object and move her arms

Table 2 (Continued)

Plan of Strategies to Promote Tunisha's Participation in Library Story Hour

Helping Tunisha Communicate	
When you need to understand Tunisha ...	Tunisha can ...
Ask her yes/no questions	Shake her head for yes (drops her head down) and no (looks and turns her head to the left)
Give her choices	Look at and reach toward what she wants when you hold up two objects or pictures
Give her a picture communication board	Look at a picture and reach toward it (her reach is very uncoordinated, so eye movement is more reliable)
When Tunisha needs to communicate ...	Tunisha can ...
How she is feeling	Vocalize: smile with pleasant sounds or get fussy and cry
What she wants	Look at objects or pictures or use her picture communication board
Her understanding of a story	Look at specially-prepared picture boards or at objects or vocalize (even though she can't say words) Respond within a more structured format, such as answering "yes/no" to simple questions (e.g., "Did Brown Bear see a dog?")

Note

You can reach Philippa H. Campbell by e-mail at pipcamp@aol.com

References

- Beckman, P. J., Barnwell, D., Horn, E., Hanson, M., Gutierrez, S., & Leiber, J. (1998). Communities, families, and inclusion. *Early Childhood Research Quarterly, 13*, 125-150.
- Bruder, M. B., & Dunst, C. J. (2000). Expanding learning opportunities for infants and toddlers in natural environments: A chance to reconceptualize early intervention. *Zero to Three, 20*(2), 34-46.
- Campbell, P. H. (in press). Addressing motor disabilities. In M. E. Snell & F. Brown (Eds.), *Instruction of students with severe disabilities* (6th ed.). New York: Prentice Hall/Merrill.
- Campbell, P. H., Rayfield, K., & Charles, S. (2003). *Community mapping: Identifying resources and opportunities for learning*. Submitted for publication.
- Cripe, J. W., & Venn, M. L. (1997). Family-guided routines for early intervention services. *Young Exceptional Children, 1*(1), 18-26.
- Dunst, C. J., Bruder, M. B., Trivette, C., Hamby, D., Raab, M., & McLean, M. (2001). Characteristics and consequences of natural learning opportunities. *Topics in Early Childhood Special Education, 21*, 68-92.
- Dunst, C. J., Bruder, M. B., Trivette, C., Raab, M., & McLean, M. (2001). Natural learning opportunities for infants, toddlers, and preschoolers. *Young Exceptional Children, 4*(2), 18-25.
- Erhmann, L., Aeschleman, S., & Svanum, S. (1995). Parental reports of community activity patterns: A comparison between young children with disabilities and their nondisabled peers. *Research in Developmental Disabilities, 16*, 331-343.
- Individuals with Disabilities Education Act (IDEA). (1997). 20 U.S.C. 1431(a)(4).
- McBride, S., & Peterson, C. (1997). Home-based early intervention with families: Who is doing what? *Topics in Early Childhood Special Education, 17*, 209-232.
- McWilliam, R. (1992). *Family-centered intervention planning: A routines-based approach*. Tucson, AZ: Therapy Skill Builders.
- Pretti-Frontczak, K., & Bricker, D. (2004). *An activity-based approach to early intervention* (3rd ed.). Baltimore: Paul H. Brookes.
- Rainforth, B., & York-Barr, J. (1997). *Collaborative teams for students with severe disabilities: Integrating therapy and educational services*. Baltimore: Paul H. Brookes.
- Sandall, S. R., & Ostrosky, M. (Eds.). (2000). *Young Exceptional Children (YEC) Monograph Series (Vol. 2): Natural environments and inclusion*. Longmont, CO: Sopris West.
- U.S. Department of Education. (2002). *Twenty-fourth annual report to Congress on the implementation of the Individuals with Disabilities Education Act*. Washington, DC: OSEP.